

09745363.122100

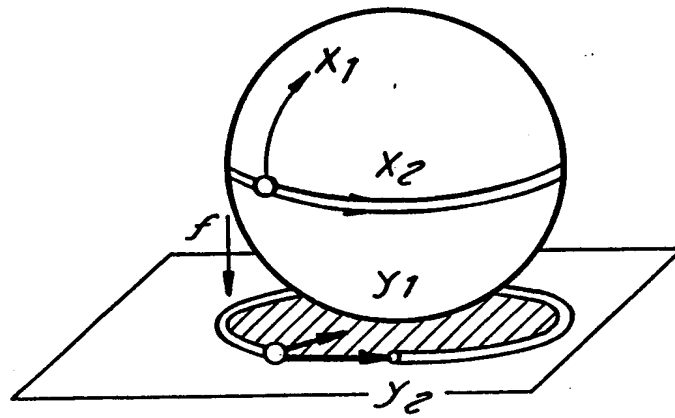


FIG. 1A

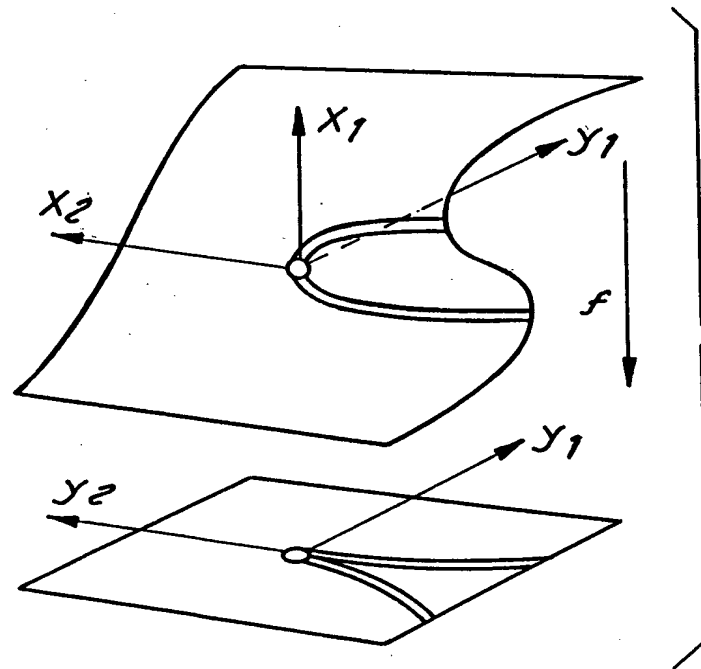
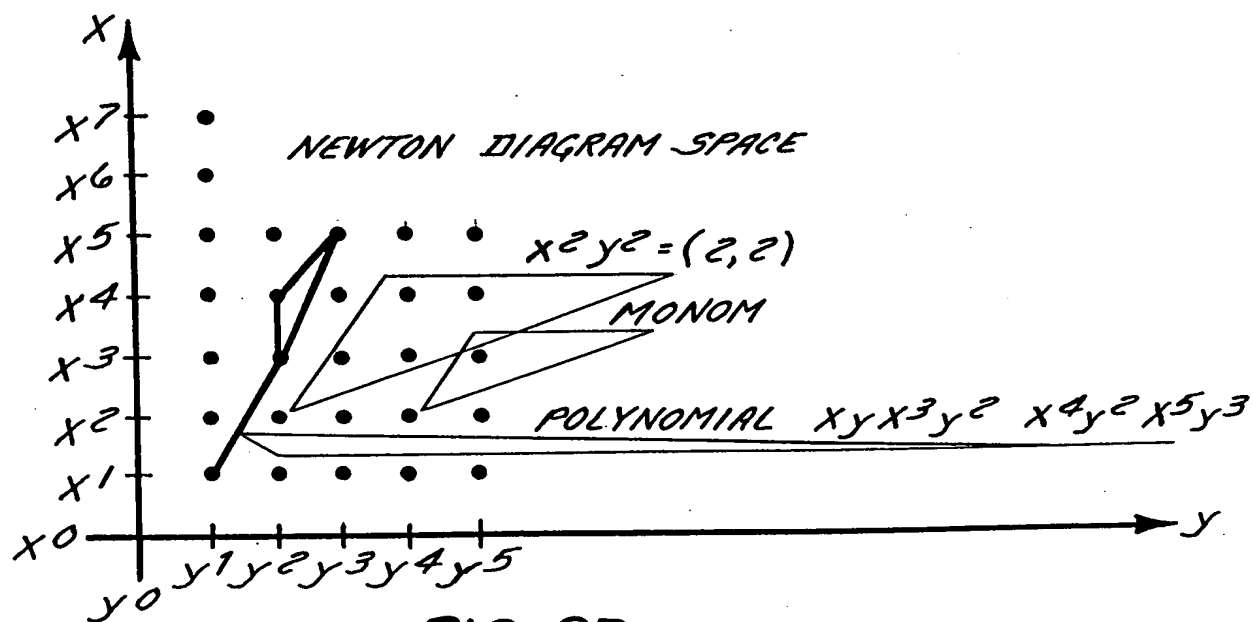
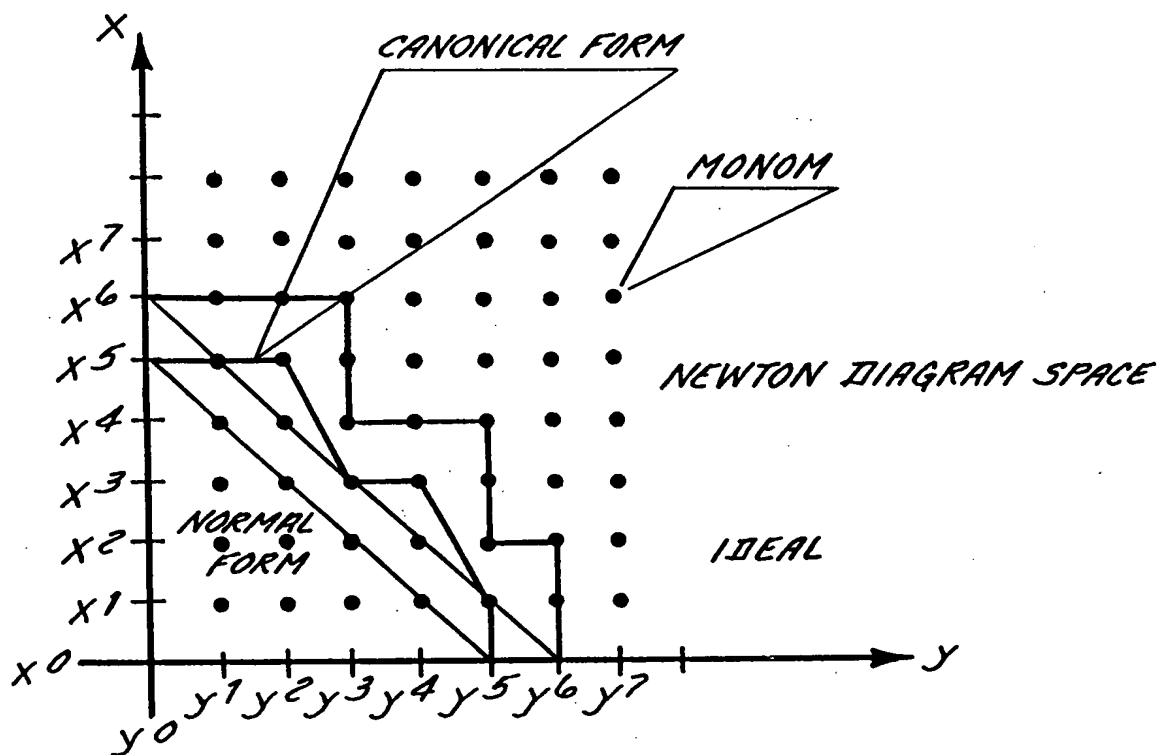


FIG. 1B



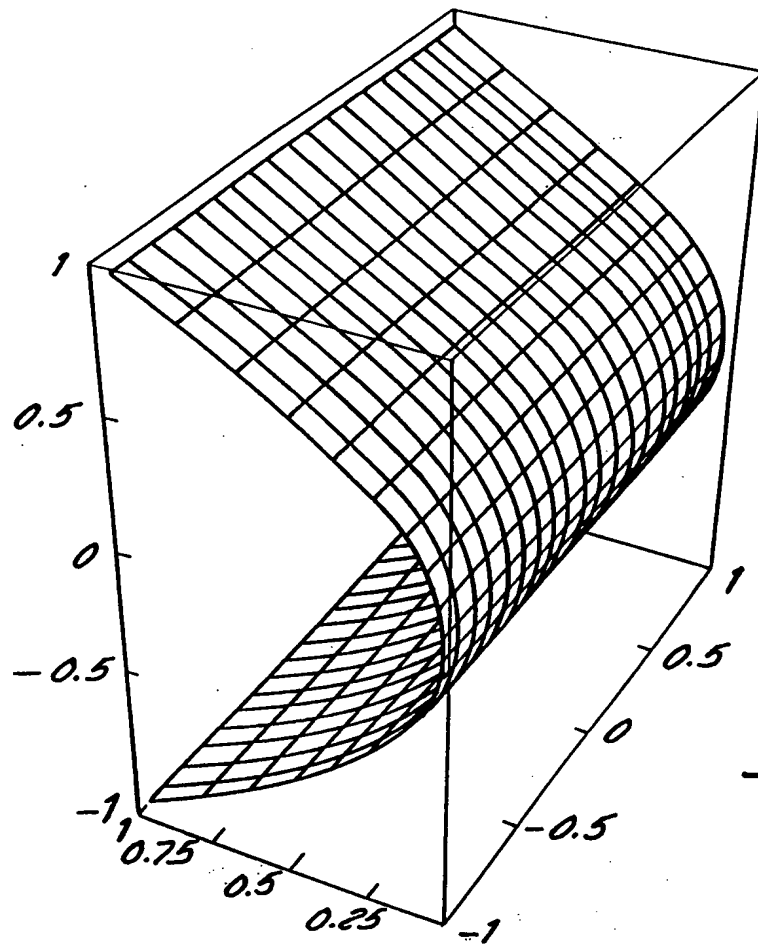


FIG. 3A

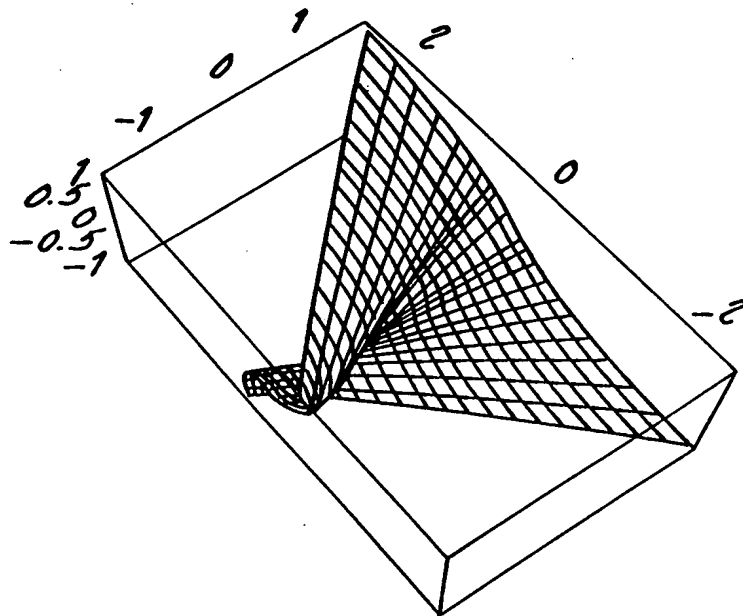


FIG. 3B

09745363-422100

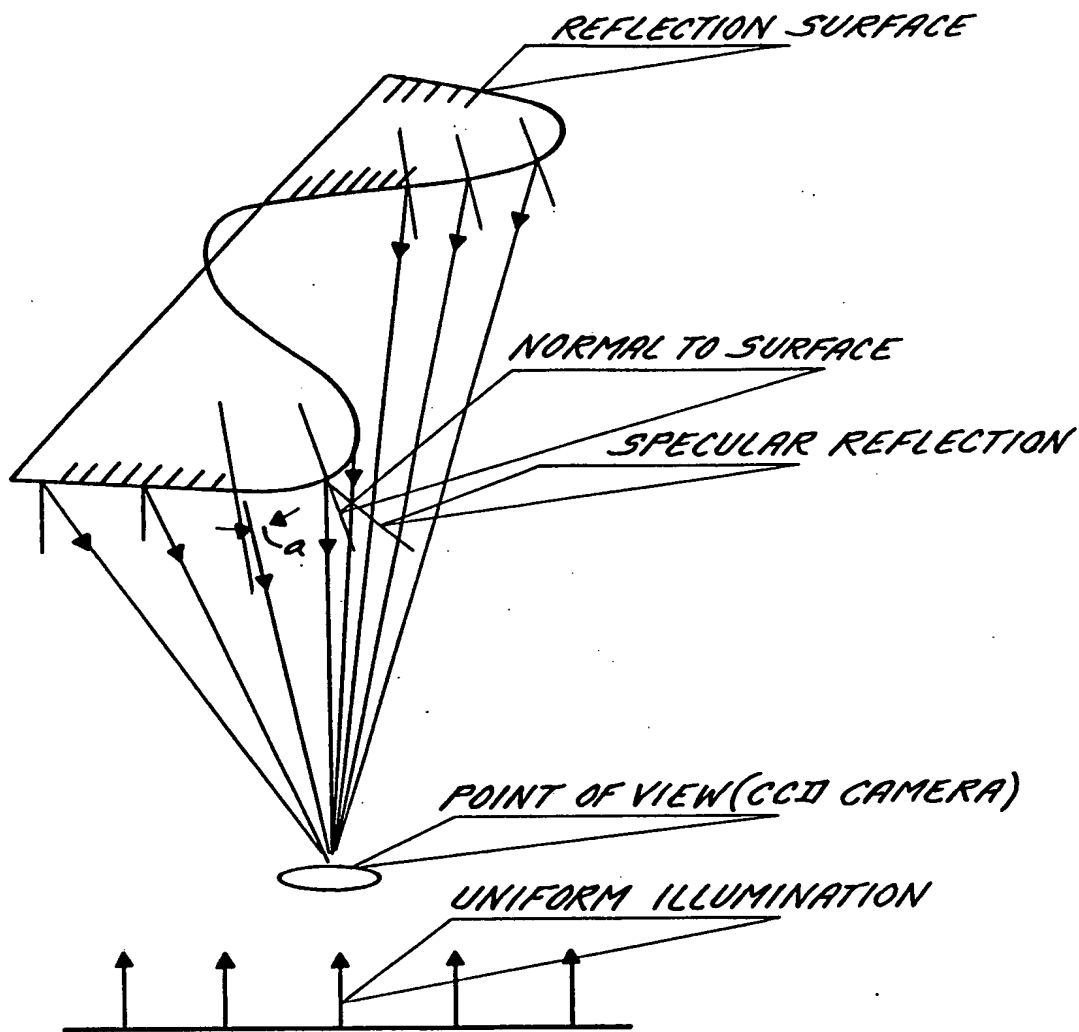


FIG. 4A

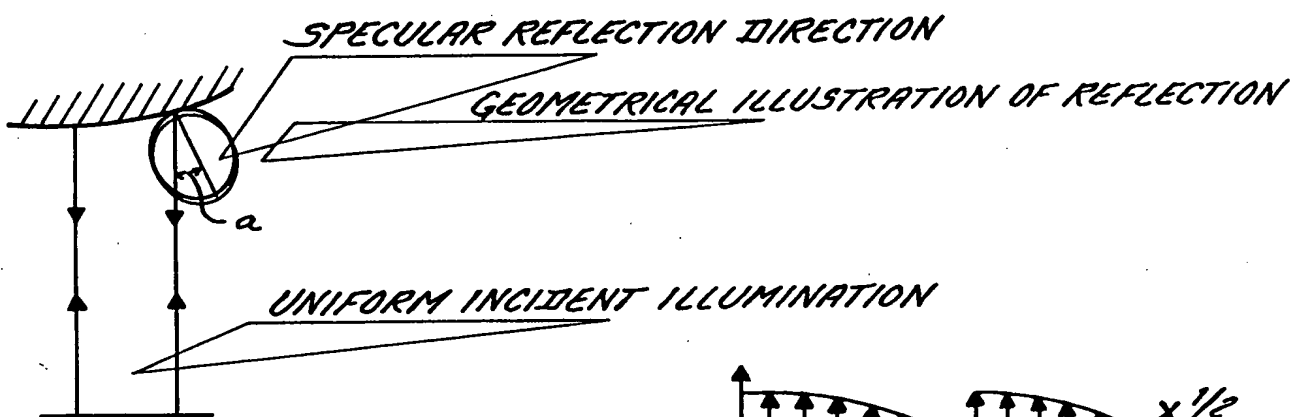


FIG. 4B



FIG. 4C

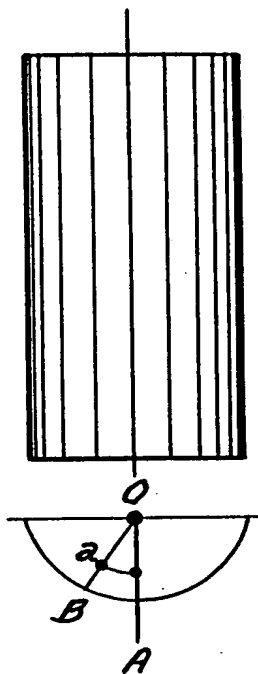


FIG. 5

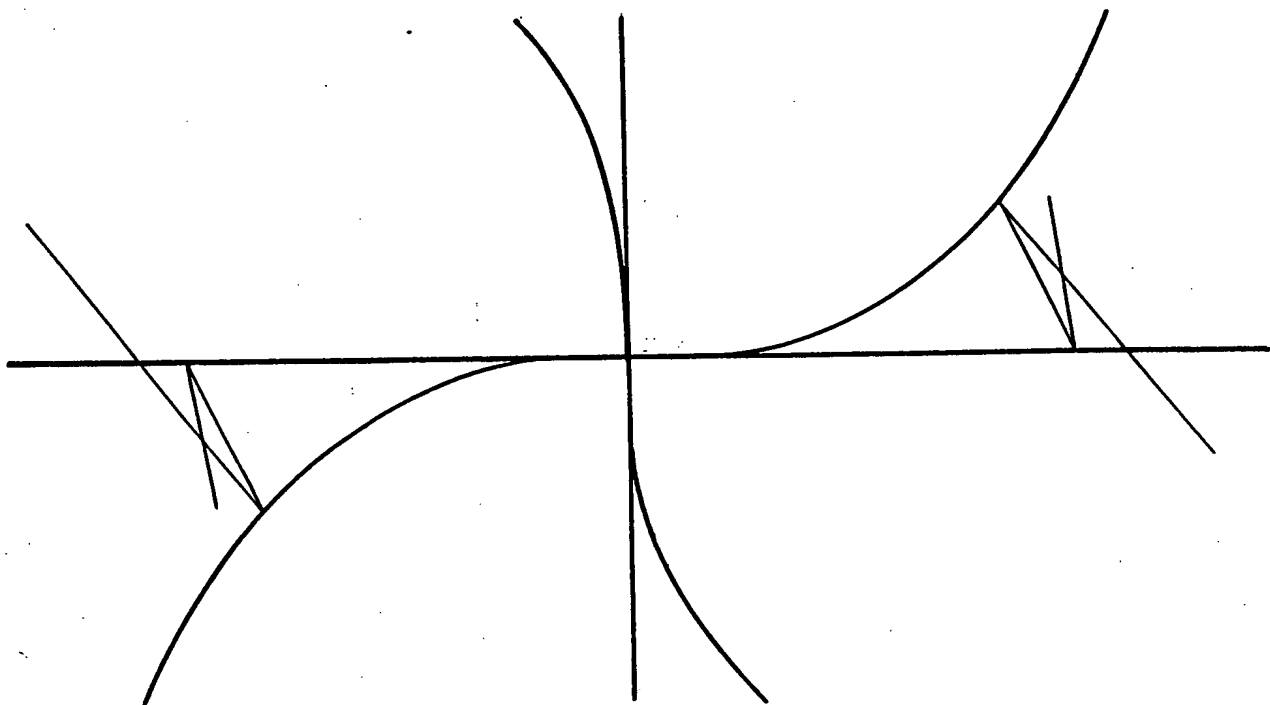


FIG. 6

09745363 122400

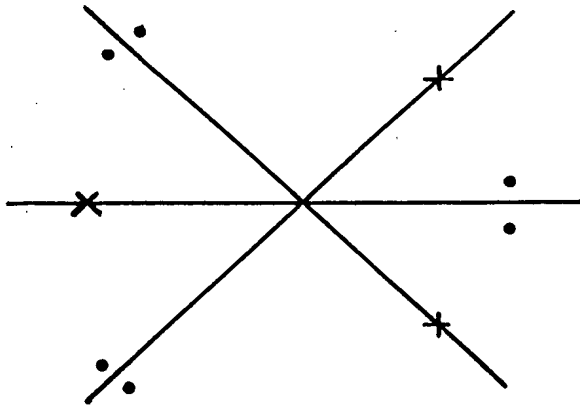


FIG. 7A

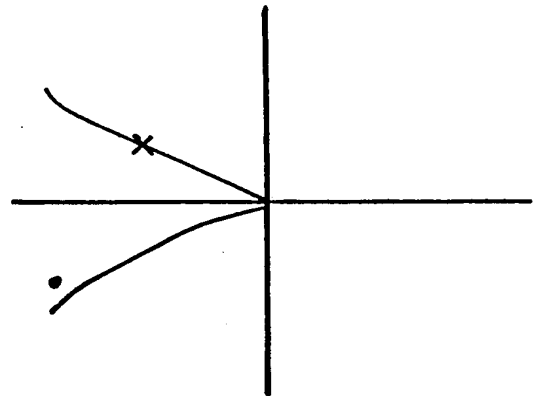


FIG. 7B

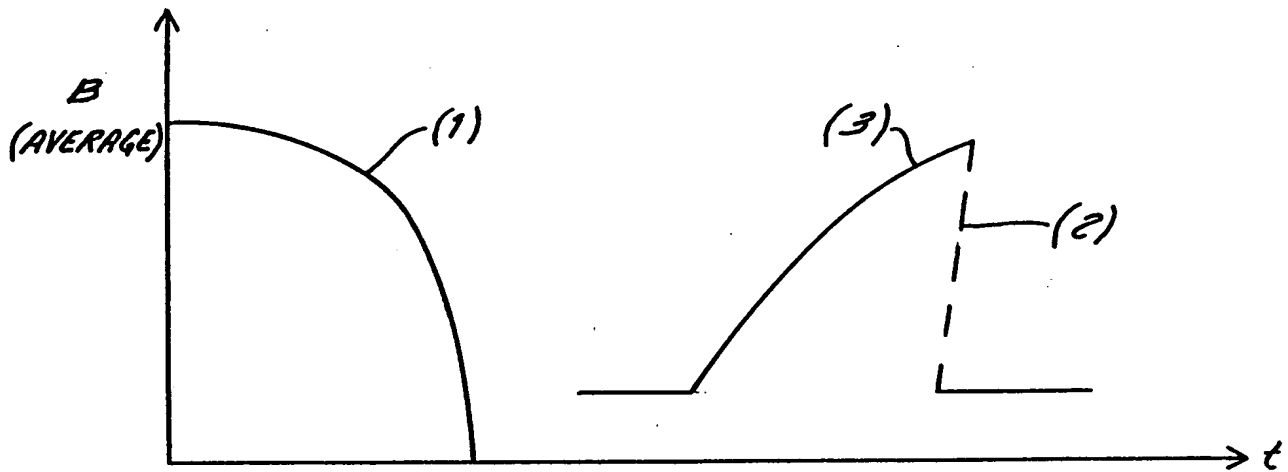


FIG. 8

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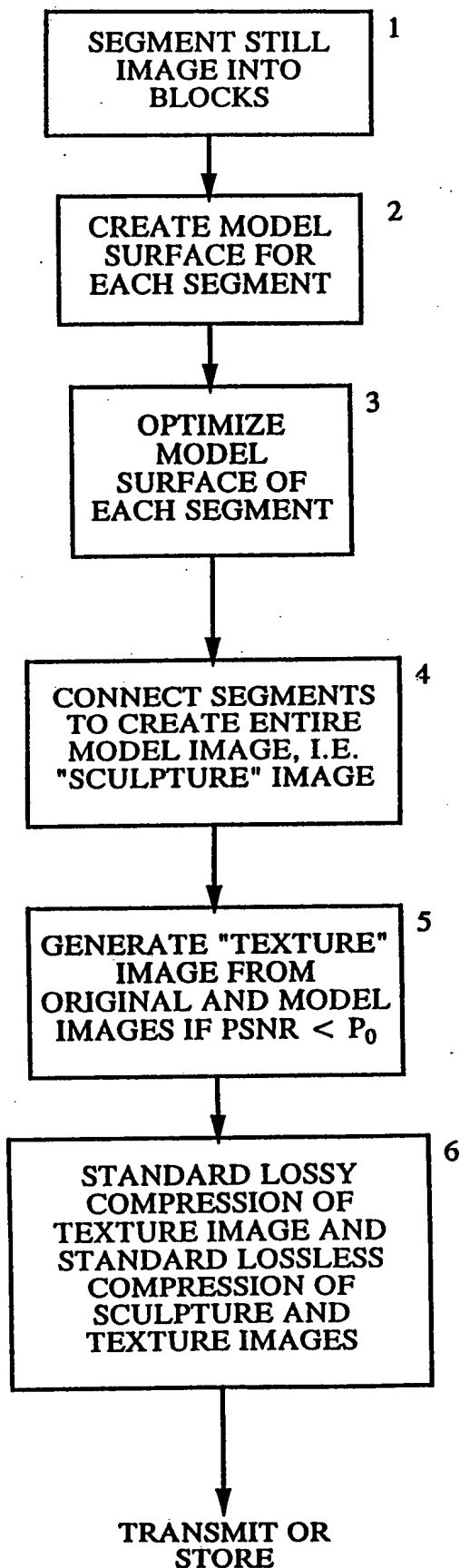


FIG. 9

09745363-122400

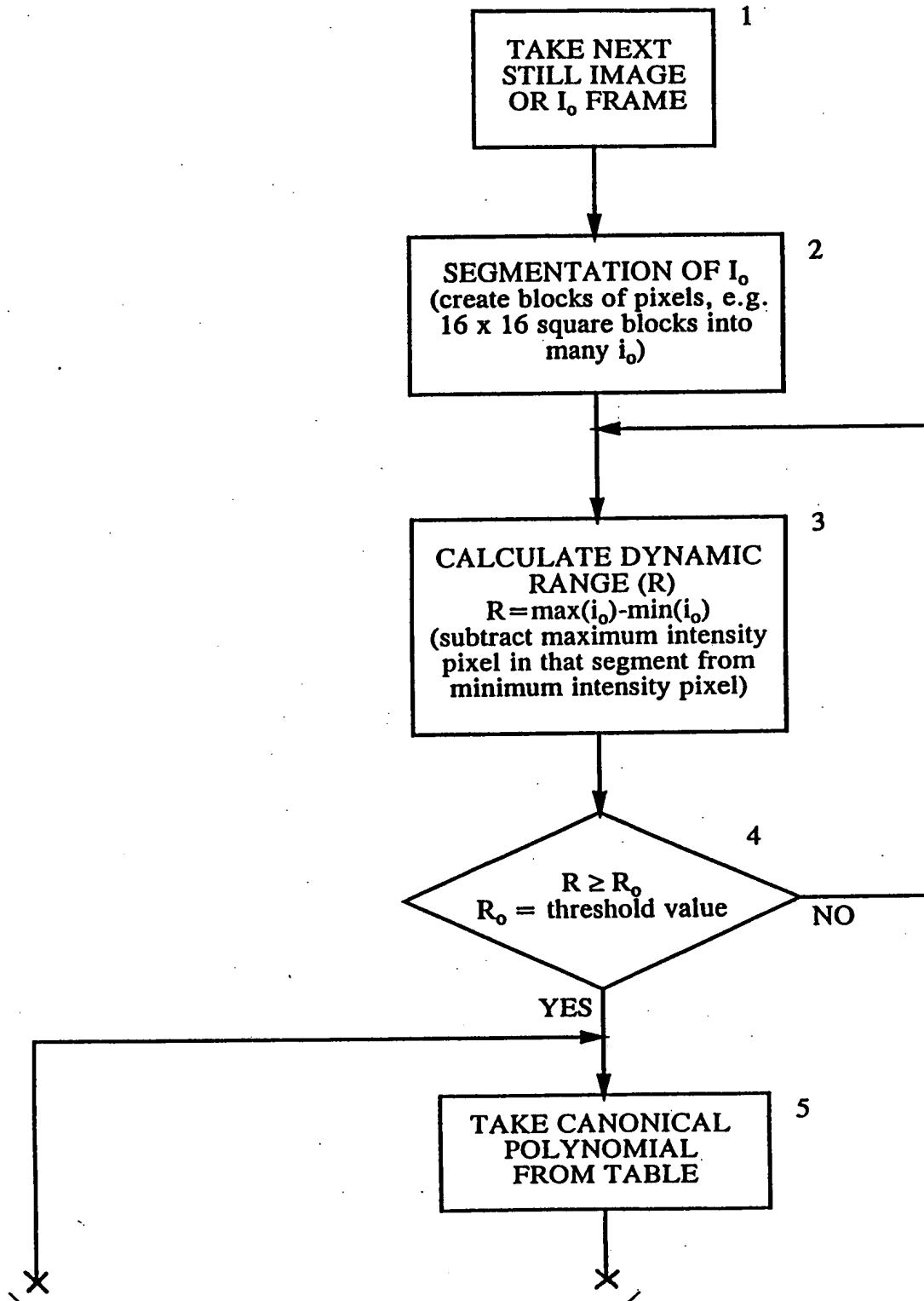


FIG. 10A

FROM FIG. 10A

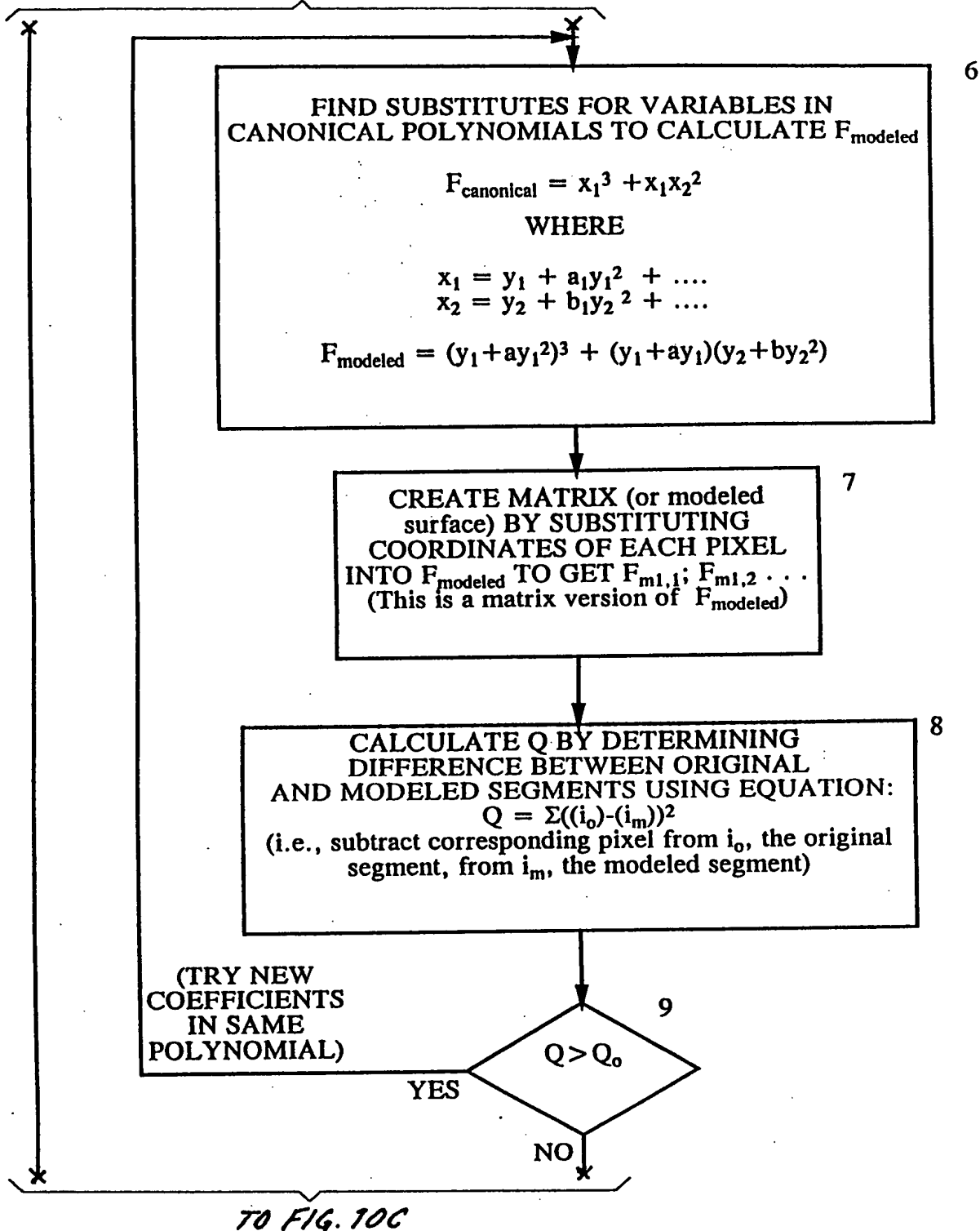


FIG. 10B

09745363 422400

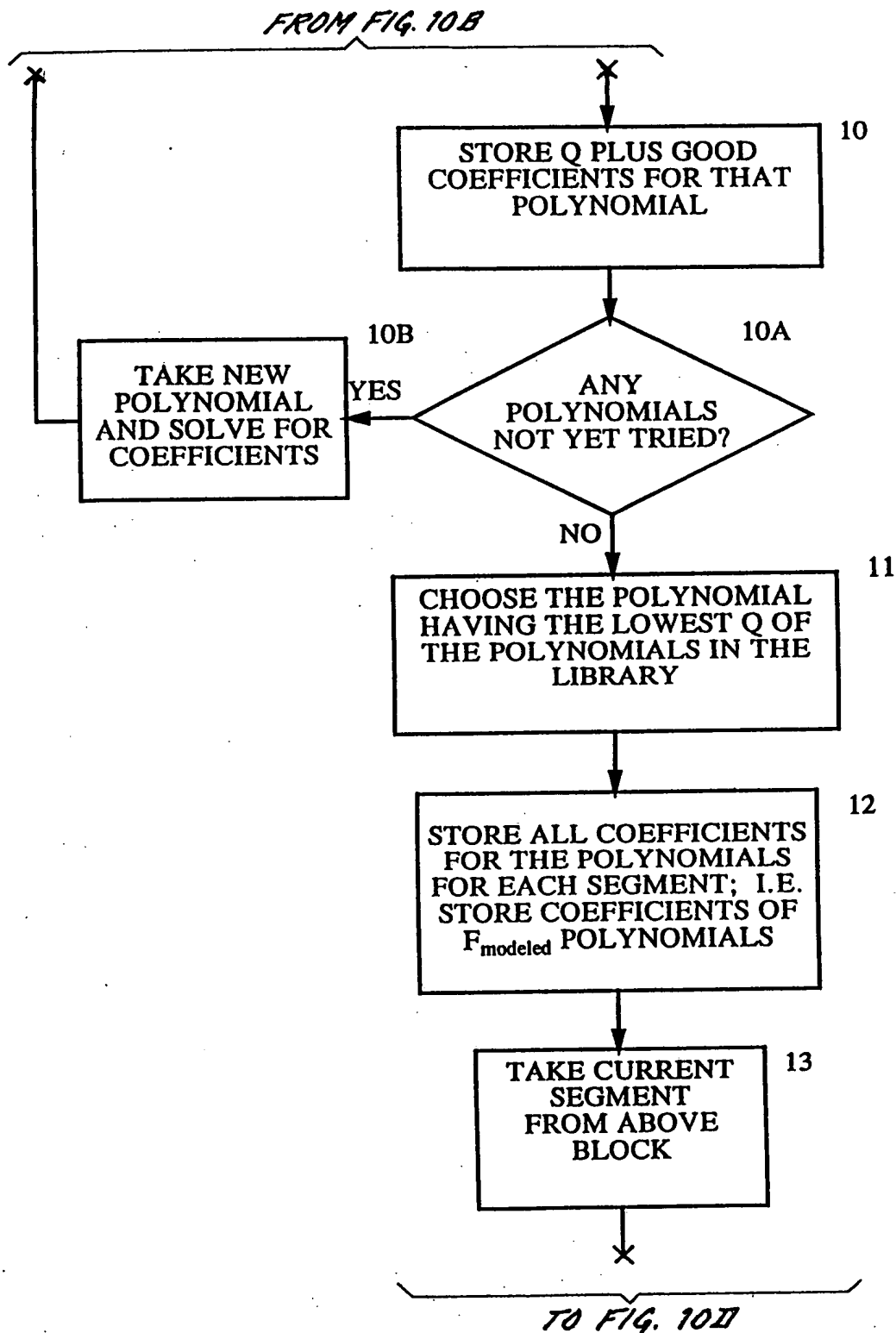


FIG. 10C

FROM FIG. 10C

14

FIND CONNECTION BETWEEN ADJACENT SEGMENTS BY EXTENDING SURFACE OF SEGMENT 1 INTO SEGMENT 2 AND FINDING DIFFERENCE BETWEEN EXTENDED SURFACE AND SURFACE OF SEGMENT 2. DO THIS BY FINDING AVERAGE DISTANCE, d , BETWEEN THE SURFACES. IF AVERAGE DISTANCE d IS SMALLER THAN A THRESHOLD VALUE, THEN APPROXIMATE SURFACE OF SEGMENT 2 BY THE EXTENDED SURFACE, I.E. THROW OUT SEGMENT 2 SURFACE. IF GREATER THAN THRESHOLD, FIND CONNECTION USING SPLINES (NEXT BLOCK)

15

NO

IS AVERAGE
DISTANCE $d < d_0$?

YES

16

STORE GRAPH ON SEGMENT BY SEGMENT BASIS, OF SURFACES WHICH EXTEND FROM THAT SURFACE INTO ADJACENT SEGMENTS IF ANY AND STORE POLYNOMIAL FOR THAT GRAPH (a complex algorithm) (This was the polynomial for segment 1 that was extended into segment 2)

17

CALCULATE
SPLINES WITH
ADJACENT
SEGMENTS
(STANDARD)

TO FIG. 10E

FIG. 10D

09/49363-1E100

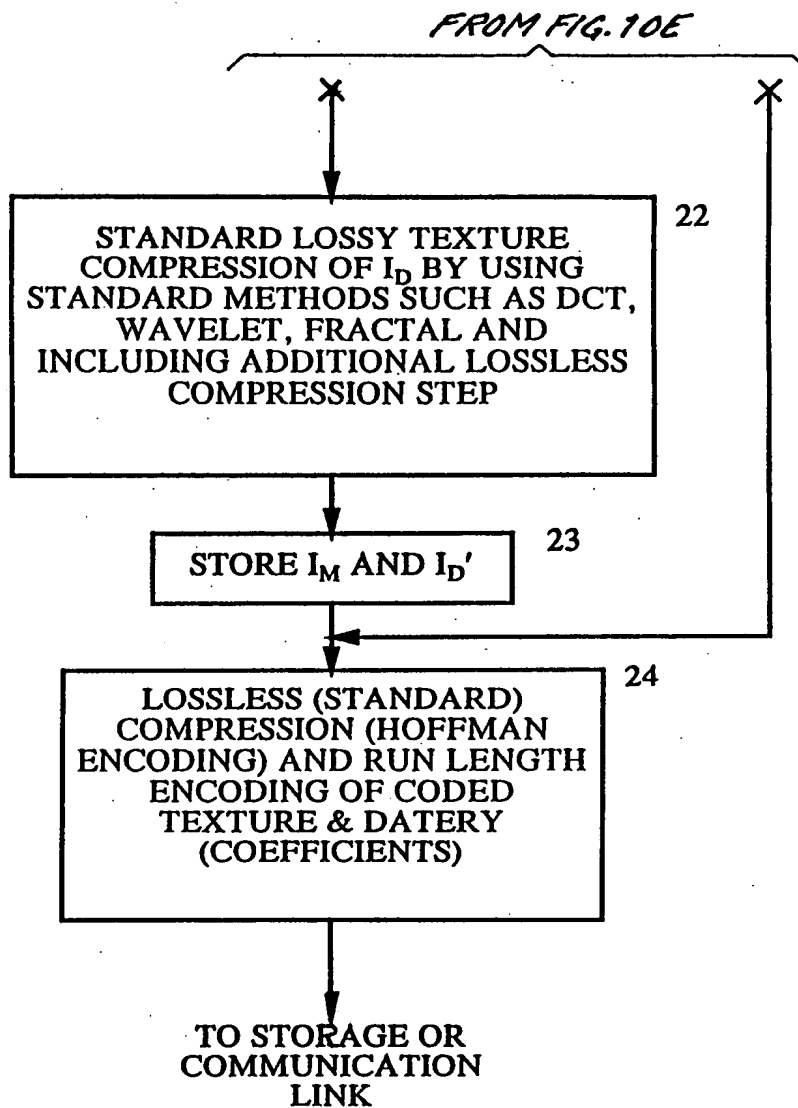


FIG. 10F

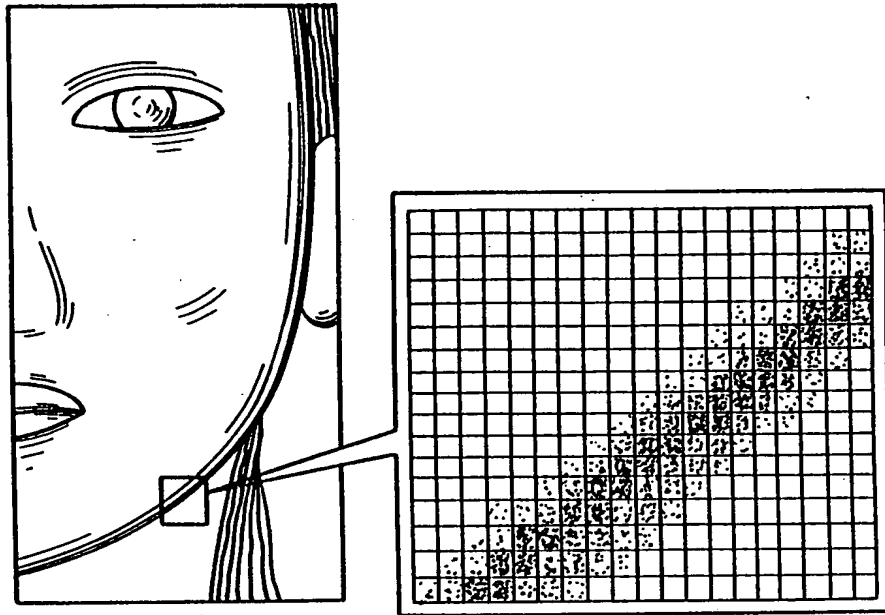
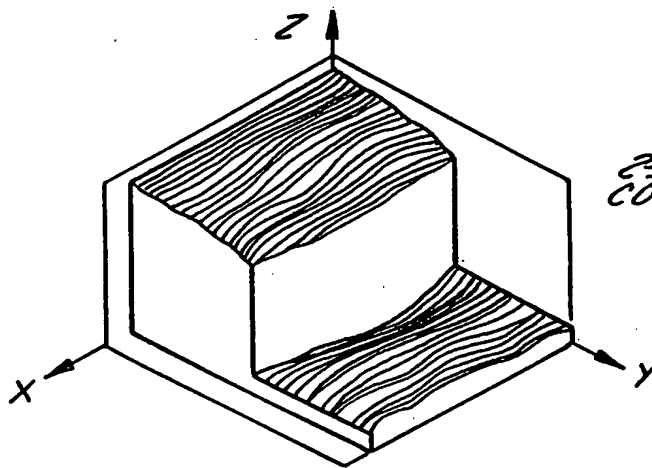
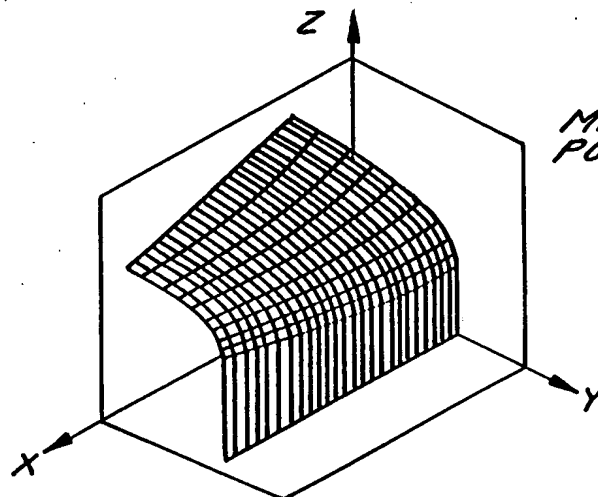


FIG. 11A



*2D CCD
CONTRAST IMAGE*

FIG. 11B



*MAPPING
POLYNOMIAL SURFACE*

FIG. 11C

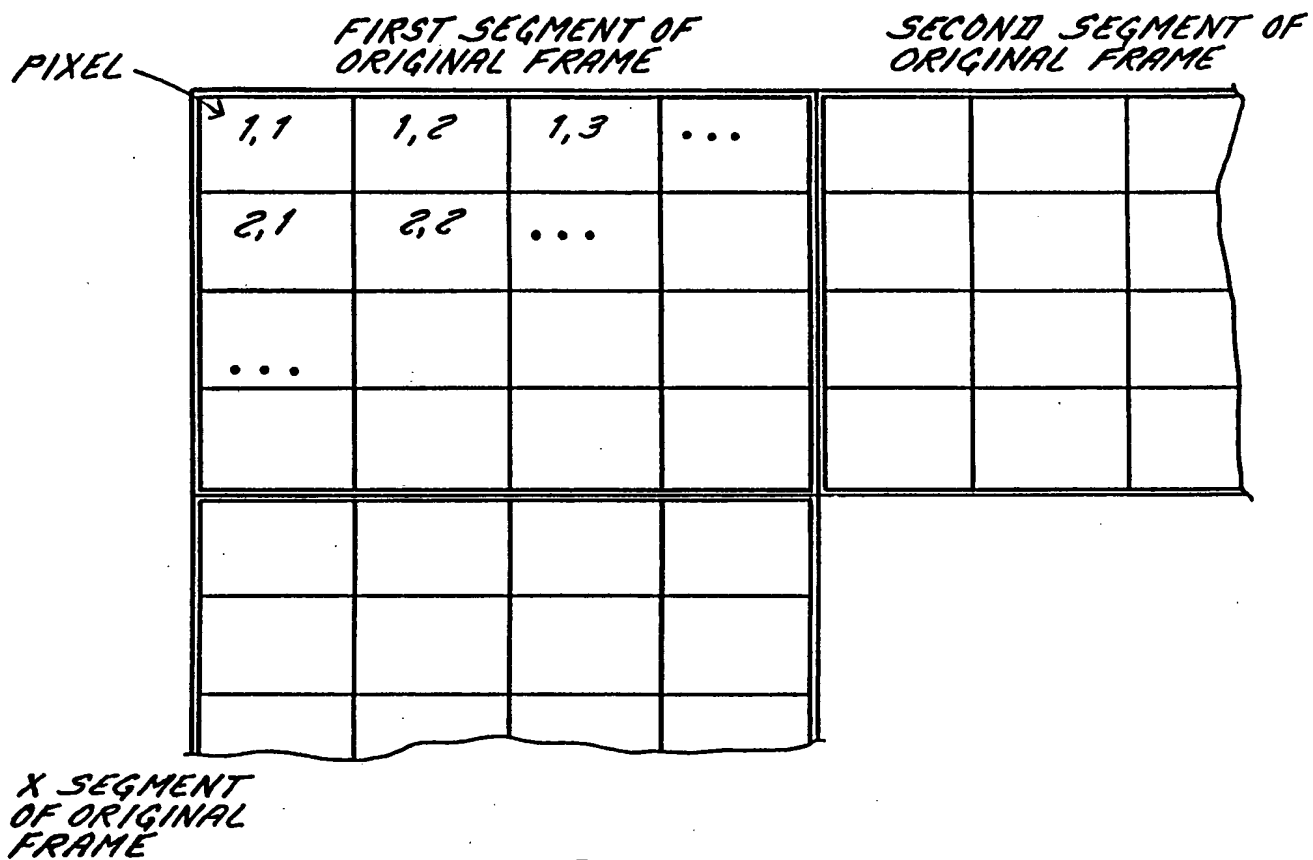


FIG. 12

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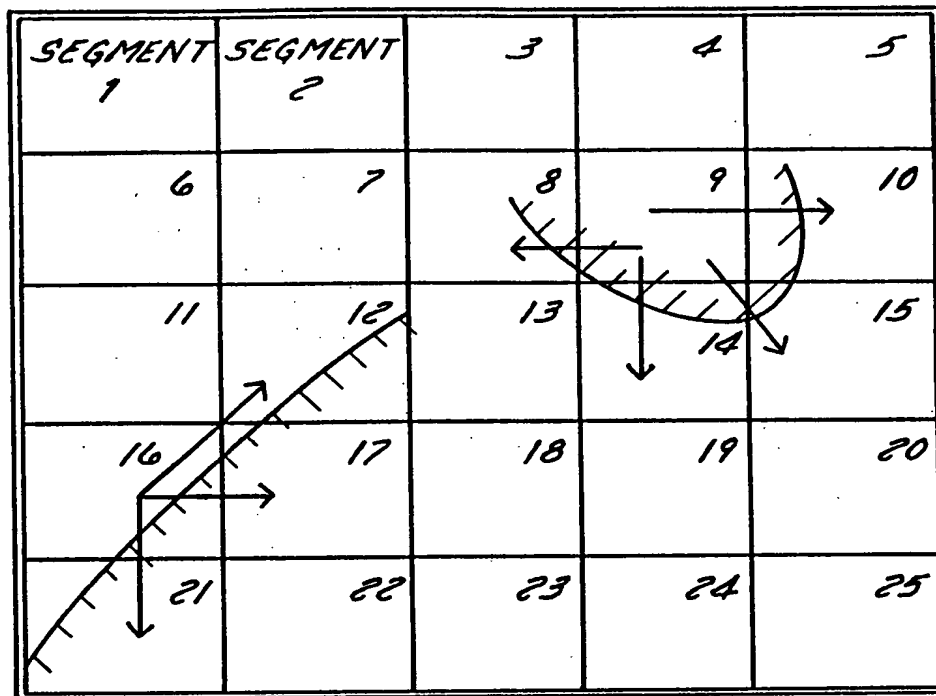
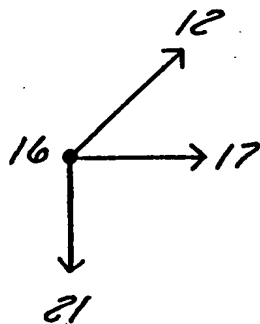
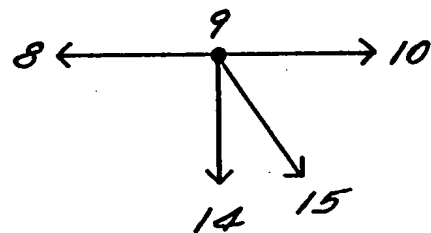


FIG. 13A



GRAPH OF SEGMENT
16'S CONNECTIONS
TO ADJACENT SEGMENTS

FIG. 13B



GRAPH OF SEGMENT
9'S CONNECTIONS
TO ADJACENT SEGMENTS

FIG. 13C

I_{pixel} $o(1,1)$	I_{pixel} $o(1,2)$...

FIG. 14A

I_{pixel} $m(1,1)$	I_{pixel} $m(1,2)$...

FIG. 14B

I_{pixel} $d(1,1)$	I_{pixel} $d(1,2)$...

FIG. 14C

$$I_{pixel} o(1,1) - I_{pixel} m(1,1) = I_{pixel} d(1,1)$$

FROM STORAGE
OR
COMMUNICATION
CHANNEL

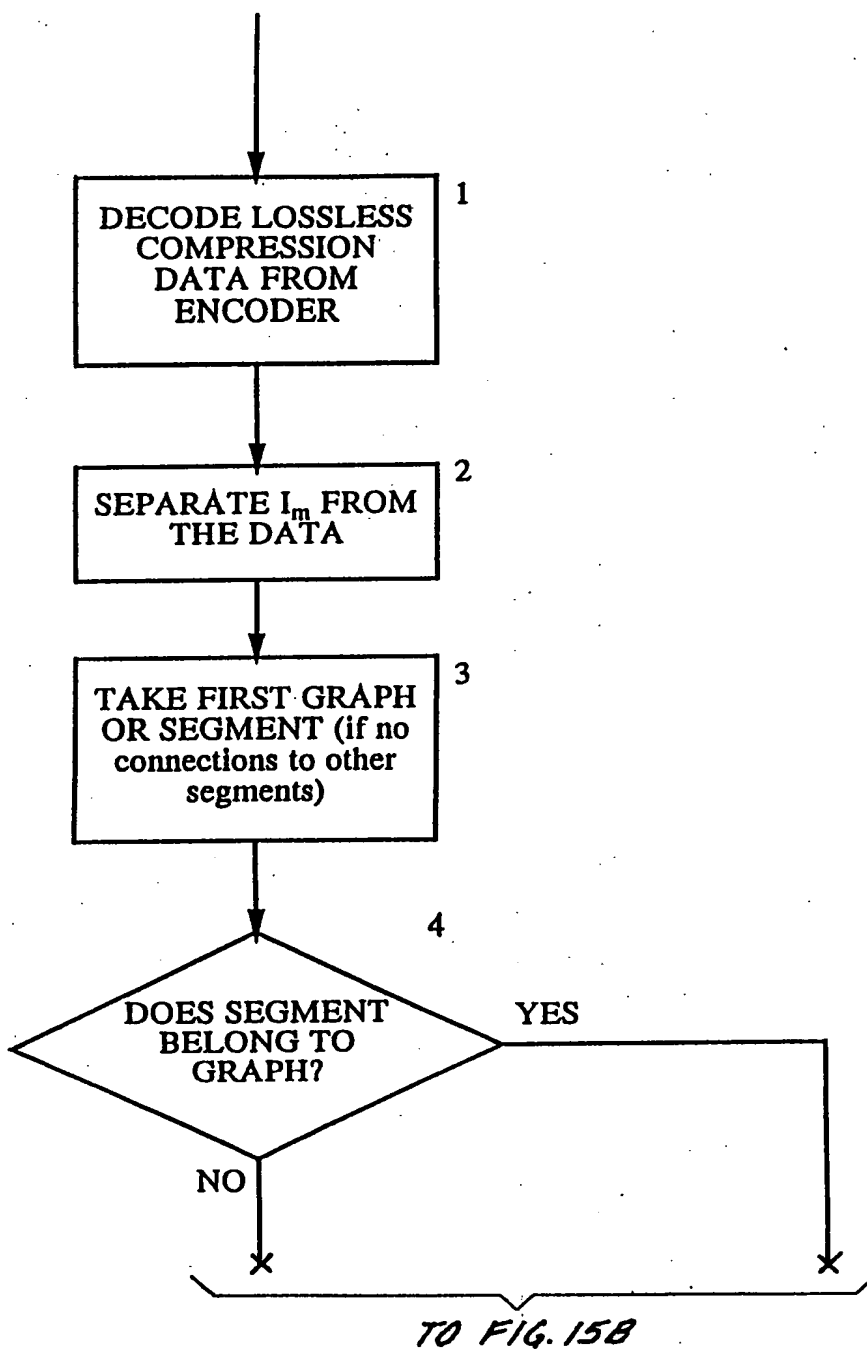


FIG. 15A

FROM FIG. 15A

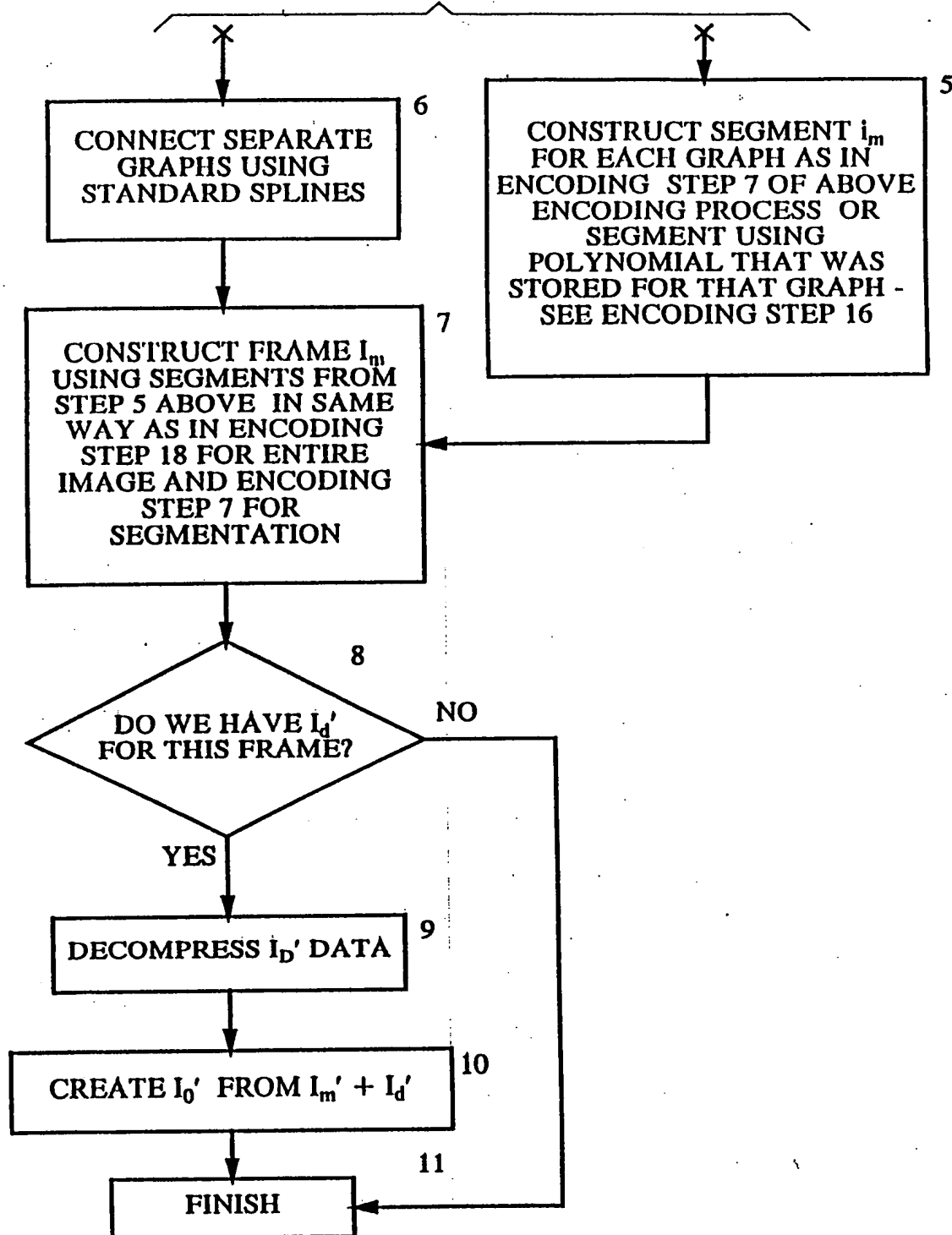
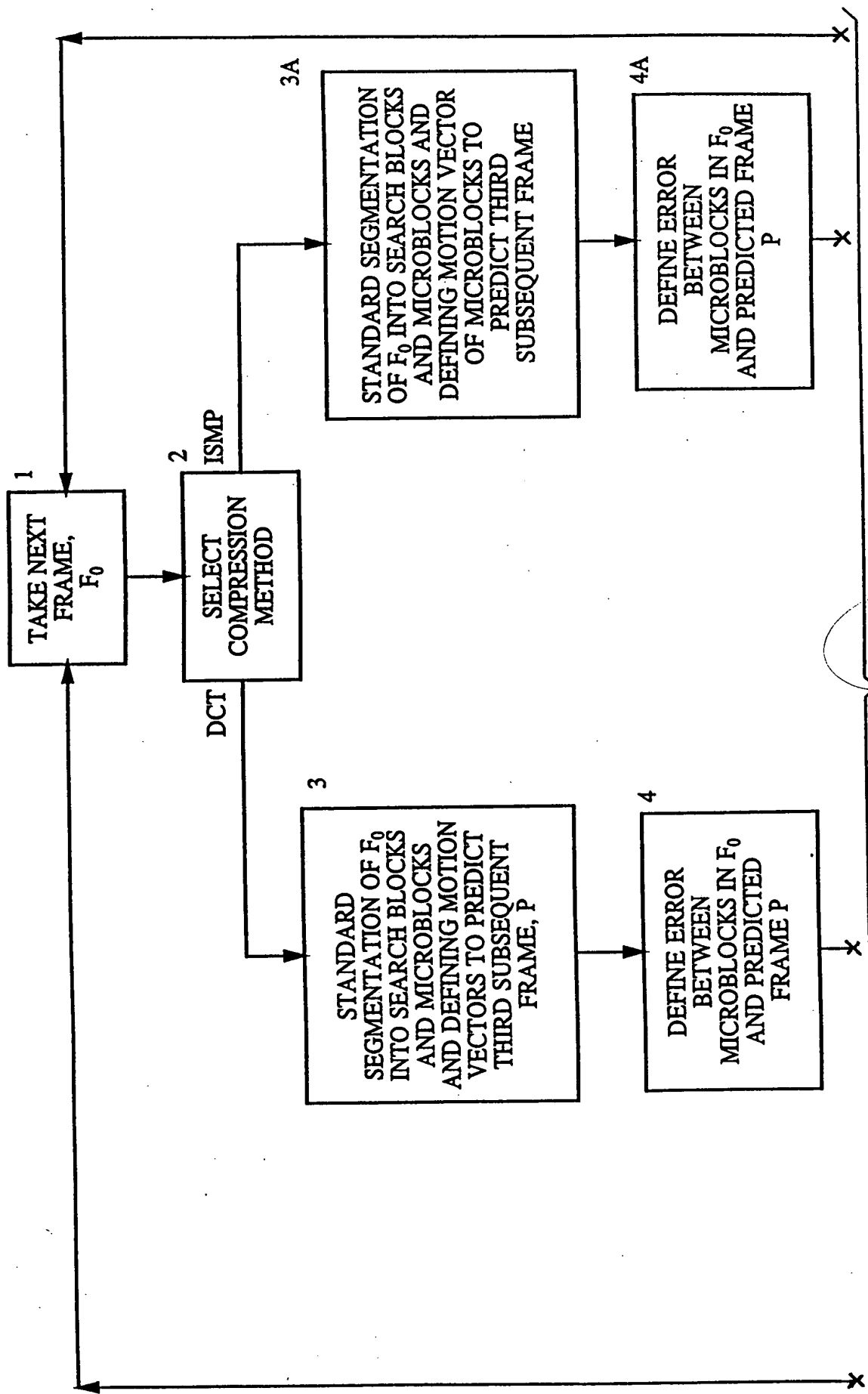


FIG. 15B



TO FIG. 6B

FIG. 16A

FROM FIG. 6A

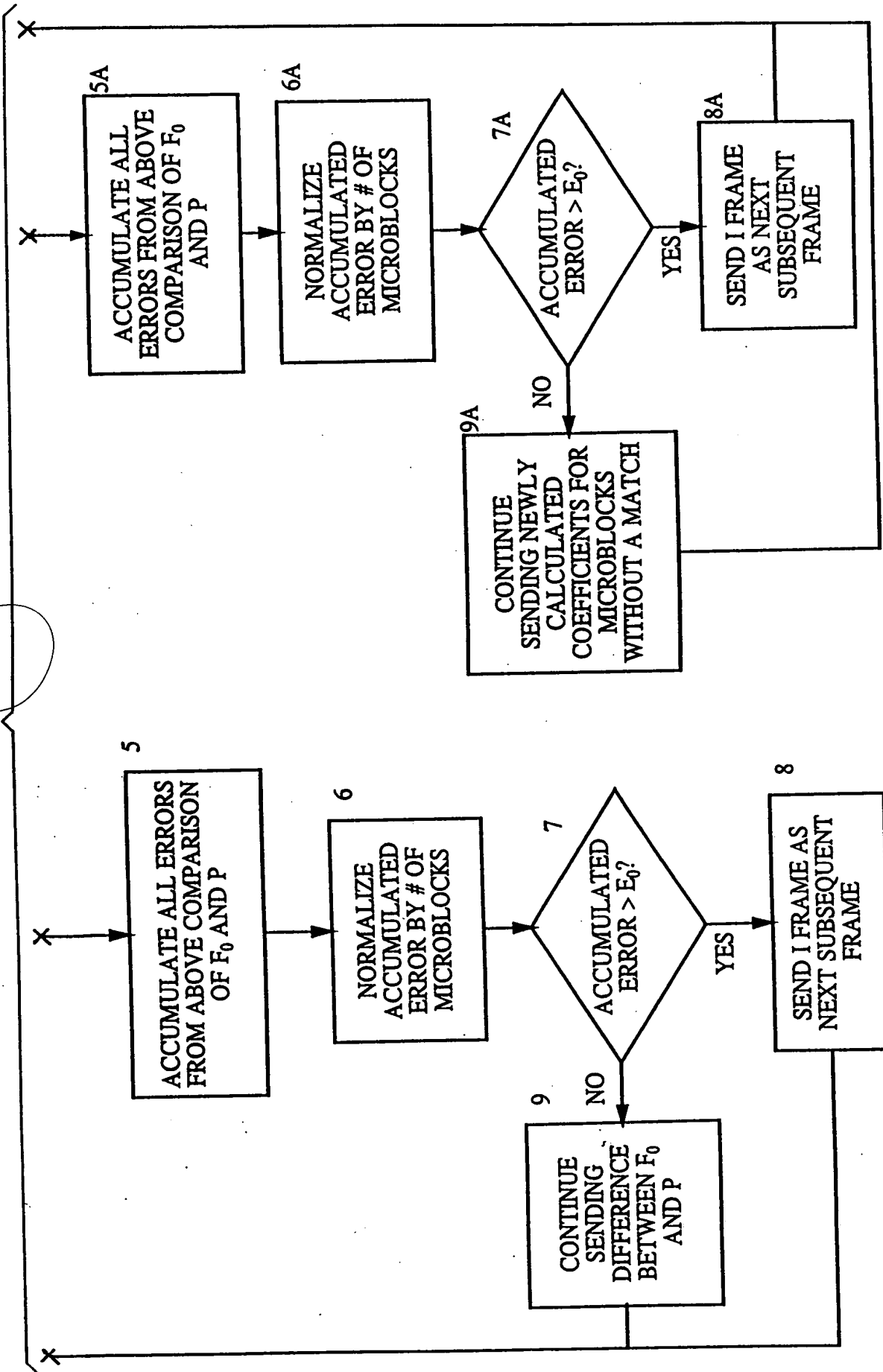


FIG. 16B

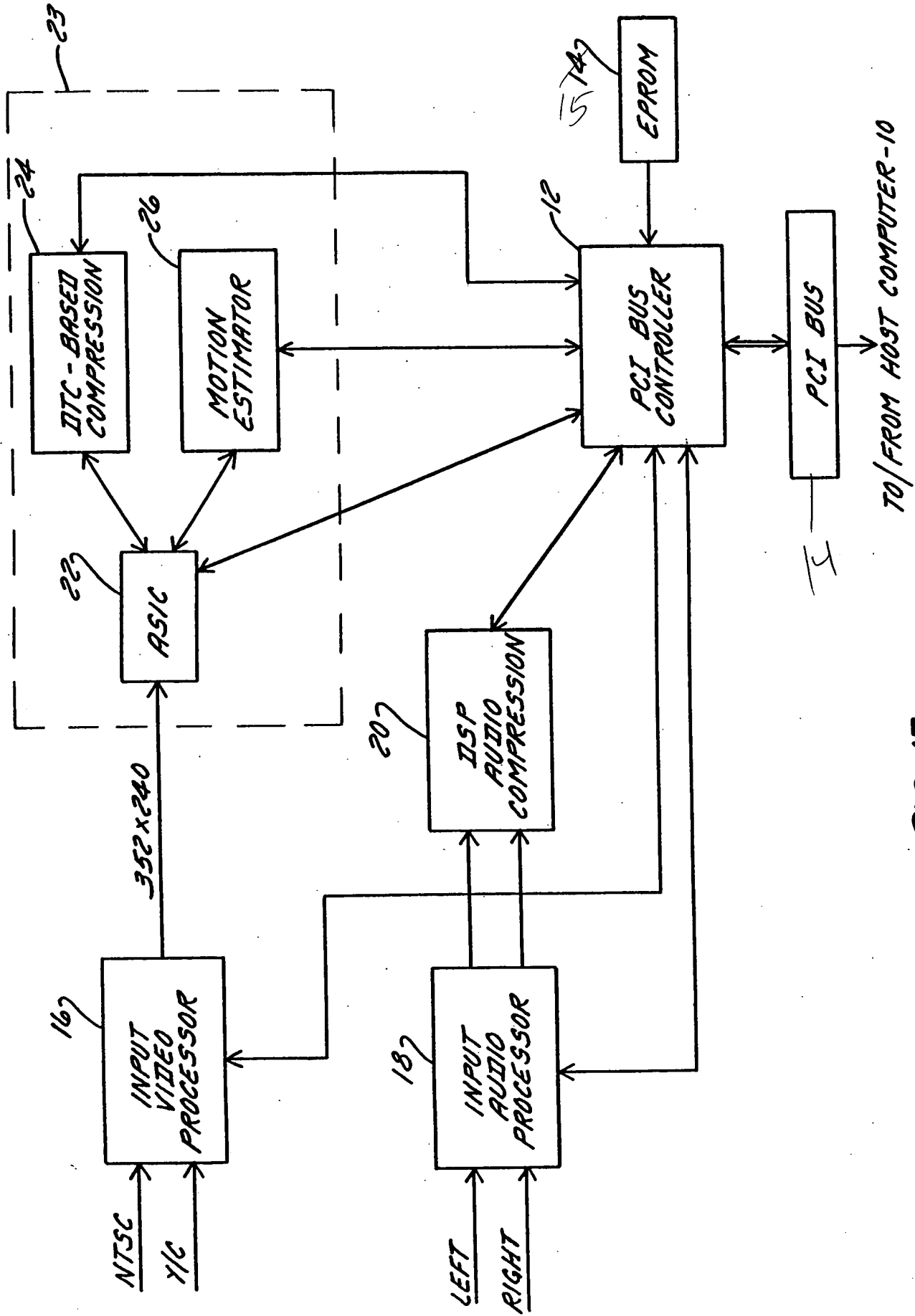


FIG. 17

09:45:33.122100

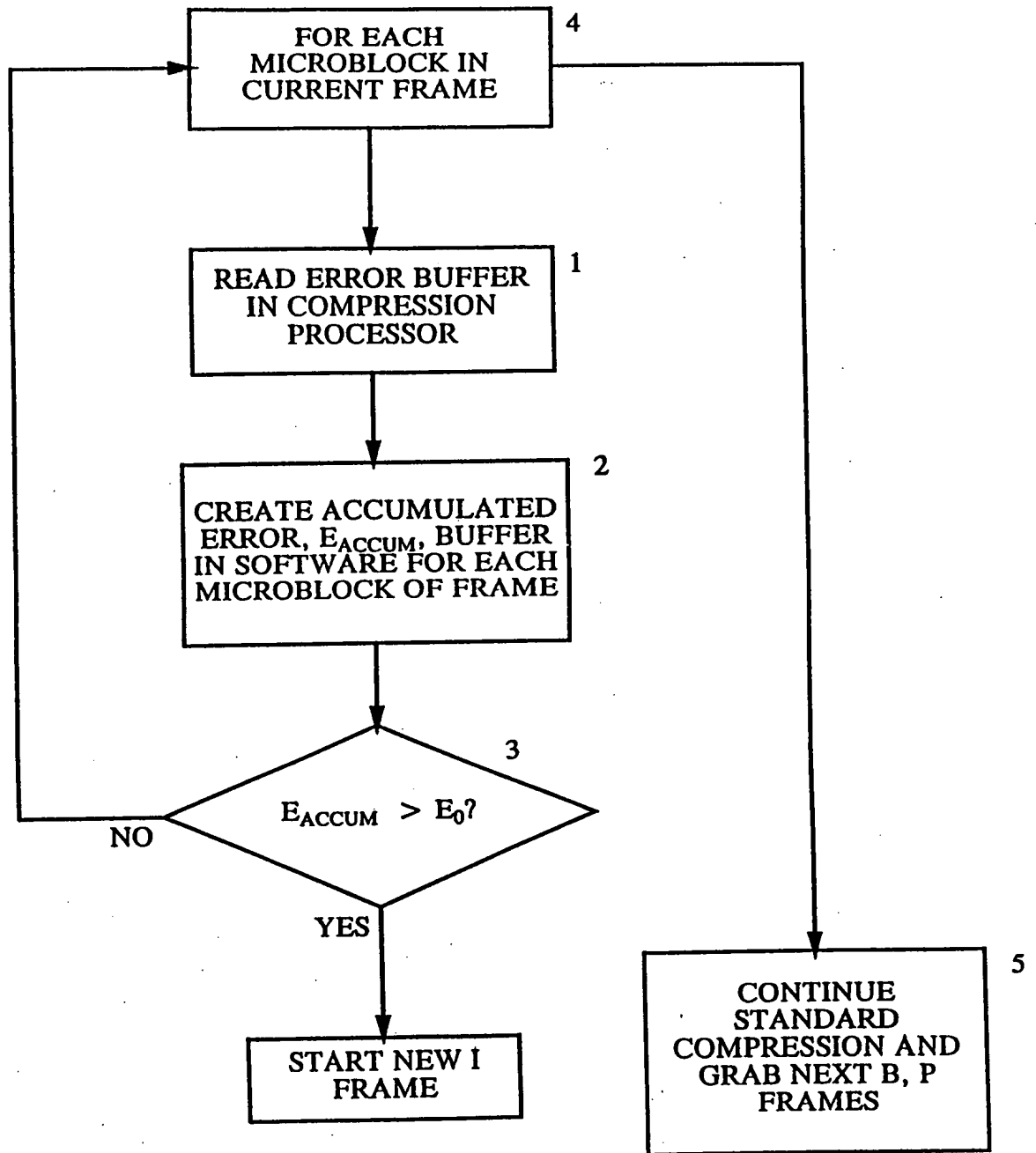


FIG. 18

#	Category	Data Reduction in Fraction of Original	Reduced Data Rate	Object Category Description
1.	A	100%	128 kbps	Original; possibly with noise.
2.	B	75%	96 kbps	Tiny details of the face (or other biological signature, such as a fingerprint or retina); slightly reduced texture; edges remain unchanged.
3.	C	50%	84 kbps	Hardened edges, wrinkles, smooth transitions for face details.
4.	D	25%	32 kbps	Heavily reduced texture, hard edges.
5.	E	10%	12.8 kbps	Hard edges, "cartoon- type" faces.

FIG. 19

09745363-122400